

CLAIMS

1. A method for deep-rolling radii or fillets at the transition between the bearing journals and the adjacent flange of a bearing point of a crankshaft with the aid of deep-rolling cylinders that are pressed into the radius or the fillet of the transition with a deep-rolling force while the crankshaft is turned until a predetermined roll-down depth is reached, characterized in that the transition
  - is initially deep-rolled with a first deep-rolling cylinder, the radius of which has an osculating ratio between 1 and 0.85 referred to the radius of the transition or the fillet, namely with a first deep-rolling force that produces a maximum internal compressive stress in the transition at a depth between 1 and 2 mm below the deep-rolled surface, and
  - the same transition is subsequently rerolled with a second deep-rolling cylinder that has a smaller radius than the first deep-rolling cylinder, namely with a second deep-rolling force of such magnitude that the second deep-rolling cylinder causes a further plastic deformation on the deep-rolled surface of the transition in addition to the plastic deformation achieved with the first deep-rolling cylinder.
2. The method according to Claim 1, characterized in that the roll-down depth to be achieved with the first deep-rolling cylinder is approximately 0.2 mm and the roll-

down depth to be additionally achieved with the second deep-rolling cylinder is approximately 0.05 mm.